

## Certainty

If there are problems with our common-sense picture of the world, perhaps we should abandon our everyday understanding of things and limit ourselves to what is certain. For it has often been thought that certainty is what distinguishes knowledge from mere belief. The idea here is that when you know something you are certain it is true and have no doubts about it; but when you merely believe it, you may *think* it is true, but you are not certain. At first sight, this seems reasonable enough; but when you start to look critically at the things we normally claim to know, you may begin to wonder if any of them are completely certain!

### Activity 1.3

List in order the five things in life that you are most certain of. Compare your list with someone else's. Can you come to any agreement?

Consider, for example, the following four statements:

- 1 I know that Neil Armstrong landed on the moon in 1969.
- 2 I know that strawberries are red.
- 3 I know that if  $a$  is bigger than  $b$  and  $b$  is bigger than  $c$ , then  $a$  is bigger than  $c$ .
- 4 I know that murder is wrong.

I imagine you would say that all of the above statements are true. But how do you know? You might say that you know that Neil Armstrong landed on the moon in 1969 because you read about it in an encyclopaedia; you know that strawberries are red because you can see that they are red; you know that if  $a$  is bigger than  $b$  and  $b$  is bigger than  $c$ , then  $a$  is bigger than  $c$  because you can reason it out; and you know that murder is wrong because it is intuitively obvious. However, if you ask yourself whether you are 100 per cent certain that these statements are true, doubts may begin to creep in. A quick look at each of the four **ways of knowing** – language, perception, reason and emotion – suggests that they cannot simply be taken at face value.

### 1 Language

Language enables us to acquire knowledge from other people, and we claim to know a great many things because we have been told them or we have read them somewhere. However, the authority of other people is not always a reliable source of knowledge, and even the so-called experts sometimes 'get it wrong'. If you are into conspiracy theories, you might ask how we can be sure that the alleged American moon landings were not an elaborate CIA-inspired hoax.

### 2 Perception

Much of our knowledge is based on personal experience, but our senses sometimes deceive us. For example, if you are colour blind, you might not see strawberries as red. We shall have more to say about this in Chapter 4. For the time being, you might like to consider Figure 1.4.

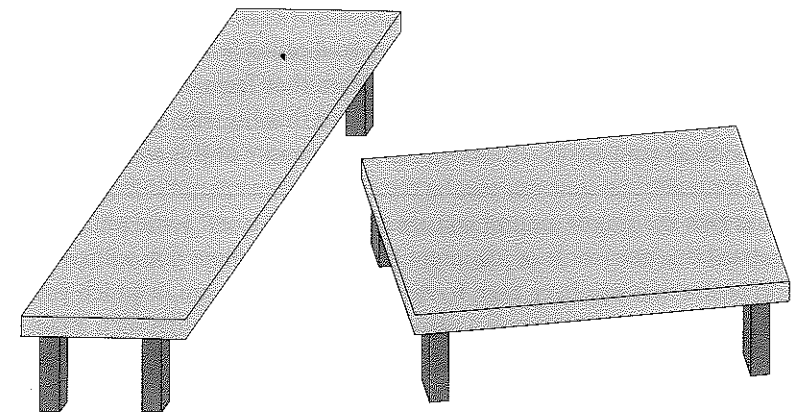


Figure 1.4

Believe it or not, the two table tops above are exactly the same shape and size. This suggests that we should not blindly trust our perception and assume that it gives us certainty.

### 3 Reason

Statement 3 above might seem less open to doubt than the others, and some philosophers have claimed that reason gives us greater certainty than perception. In practice, however, people do not seem to be very good at abstract reasoning and they are liable to make all kinds of errors. To illustrate, assuming that some dentists are drunkards and no cyclists are drunkards, does it follow that some cyclists are dentists? The answer is that it does not – but we may well struggle to see that this is true.

### 4 Emotion

Some of the things that we claim to know strike us as intuitively obvious or are based on our gut feelings. The trouble is that what is intuitively obvious to me may not be intuitively obvious to you, and gut feelings are far from being a sure guide to the truth. You only have to consider debates about such things as abortion or capital punishment to see the extent to which people may have conflicting intuitions on important issues. And it would surely be arrogant simply to assume that my intuitions are right and yours are wrong. Emotions may provide us with the energy to pursue knowledge, but it is far from clear that they are infallible guides to the truth.

## Radical doubt

So far, we have raised some preliminary doubts about knowledge that is derived from language, perception, reason and emotion. But, following the French philosopher René Descartes (1596–1650), there is perhaps one statement that you think is *absolutely* certain – namely that 'I exist'. Surely that is something that cannot sensibly be doubted?

Well, if pushed, I might say that I am not even sure about that! In the movie *The Truman Show* a character called Truman Burbank lives on an island called Seahaven and leads an apparently ordinary life. As the movie progresses, we learn that Truman's entire life is being filmed 24 hours a day and broadcast live on TV, and that his wife, family, friends and acquaintances are all paid actors. Truman himself is unaware of this and he mistakes his illusory world for reality. So how can you be certain that you are not living a Truman-Show-type life and that the people around you are not simply actors? Some philosophers have even speculated that the whole of life might be a dream. Perhaps you will awake in a few minutes and realise that you have been having the strangest dream in which you were a creature called a human being, living on a planet called Earth. Although such a radical supposition does not prove that you do not exist, it *does* suggest that your life might be completely different from what you thought.

#### Activity 1.4

- 1 Do you think it is seriously possible that you could be dreaming right now?
- 2 Do you think that some areas of knowledge are more certain than others?

## Relativism

Sometimes people react to this lack of certainty by swinging to the opposite extreme and embracing a position known as **relativism**. According to relativism, there is no such thing as absolute truth that exists in an objective way independent of what anyone happens to *believe* is true. Instead, truth is relative and may be different for different individuals or for different cultures. So rather than say that something is true or false in an unqualified way, the most we can do is say that it is 'true for me' or 'false for you'. Since there are no grounds for saying that one opinion is better than another, we must therefore conclude that all points of view are of equal value.

Since there are disputed questions in all areas of knowledge, relativism might at first seem an attractive position. Rather than insist that I am right and you are wrong, it is surely more attractive to say that one and the same knowledge claim can be true for me and false for you?

Despite its attractions, relativism leads to as many difficulties as equating knowledge with certainty. Consider the question of whether or not the earth is round. According to a relativist we would have to say it is true for me and false for a member of the flat-earth society. But surely there is an objective fact of the matter independent of what I or anyone else may happen to think? After all, the earth cannot be both round *and* flat. In view of this, I think that what people really mean when they say that something is 'true for them' is that they *believe* it is true. You are, of course, entitled to believe what you like, but the mere fact that you believe that something is true doesn't mean that it *actually* is true. A young child might believe that Santa Claus exists, but it only confuses the issue to say that it is 'true for the child'. For, no matter what the child believes, Santa Claus does not in fact exist.

The fact that we take seriously the idea that someone might be wrong in their beliefs suggests that relativism is false. Indeed, it could be argued that the statement 'All truth is relative' is self-contradictory. For if we ask ourselves about the status of the statement itself, we seem to run into difficulties – as can be seen from the dialogue in Figure 1.5. On the one hand, if it is absolutely true that all truth is relative, then there is at least one absolute truth – namely the truth that all truth is relative. On the other hand, if it is only relatively true that all truth is relative, then if a consistent relativist meets someone who says 'It is *not* true for me that all truth is relative', they are hardly in a position to argue with them.

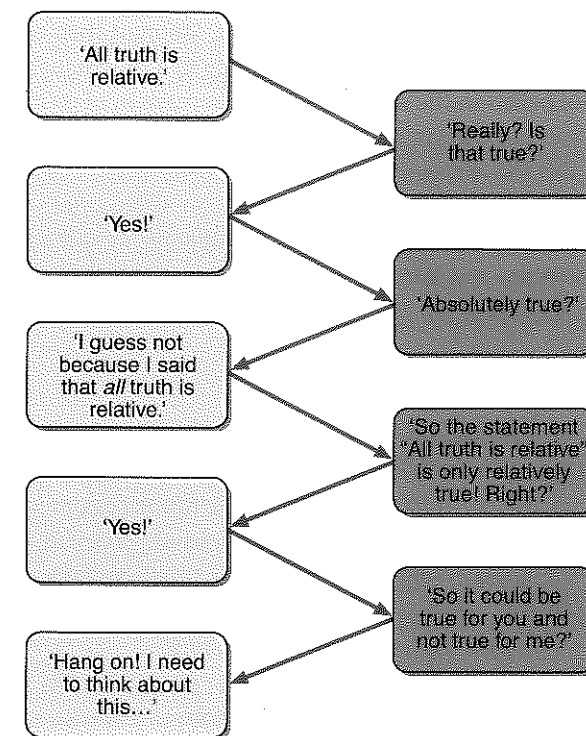


Figure 1.5  
The dialogue of relativism

#### Activity 1.5

Read the dialogue taken from a novel *White Noise* by Don DeLillo (see Reading resources, page 19). What doubts does Heinrich cast on his father's claim that it is raining? Which, if any, of these doubts do you think are reasonable?

## What should we believe?

We have seen that neither common sense, nor certainty, nor relativism can give us a quick solution to the problem of knowledge. So what should we believe? There is no simple answer to this question, and TOK is, in any case, more concerned with *how* you believe something than with *what* you believe. Whatever you believe, you should, for example, try to support your beliefs with evidence and be able to consider and respond to criticisms of your views.

## The role of judgement

Since we live in a world in which there are few black and white certainties, you will probably have to rely more on **judgement** than proof in deciding what to believe. One important aspect of good judgement is the ability to balance scepticism with open-mindedness. Take the claim that aliens have visited the earth at some time in the past – something which opinion polls suggest is believed by around one-third of Americans. We should be sceptical enough to question some of the flimsy evidence that has been put forward to support this claim, but open-minded enough to allow that it is possible that a technologically advanced civilisation may have evolved and sent envoys to our planet. We must then engage in the difficult task of assessing the balance of evidence and coming to a provisional conclusion.

The great marketplace of beliefs in the so-called information age is, of course, the Internet. Surfing around, you can quickly find websites devoted not only to a whole range of academic subjects, but also to a dizzying array of paranormal phenomena, conspiracy theories and urban legends. Since we live in a credulous age, we should cultivate a healthy scepticism as an antidote to intellectual – and financial – gullibility. (If you are too gullible, you will find plenty of charlatans and hucksters out there who will be only too willing to relieve you of your money.)

## The danger of gullibility

Now, you may personally believe in some or other paranormal phenomenon or conspiracy theory, and at some point it may even be shown to be true. However, no one is willing to believe *everything* they read on the Internet, and we all have limits beyond which we conclude that a belief is absurd. I very much doubt that you would take seriously any of the following headlines from the *Weekly World News*, which styles itself as 'America's wildest and zaniest supermarket tabloid':

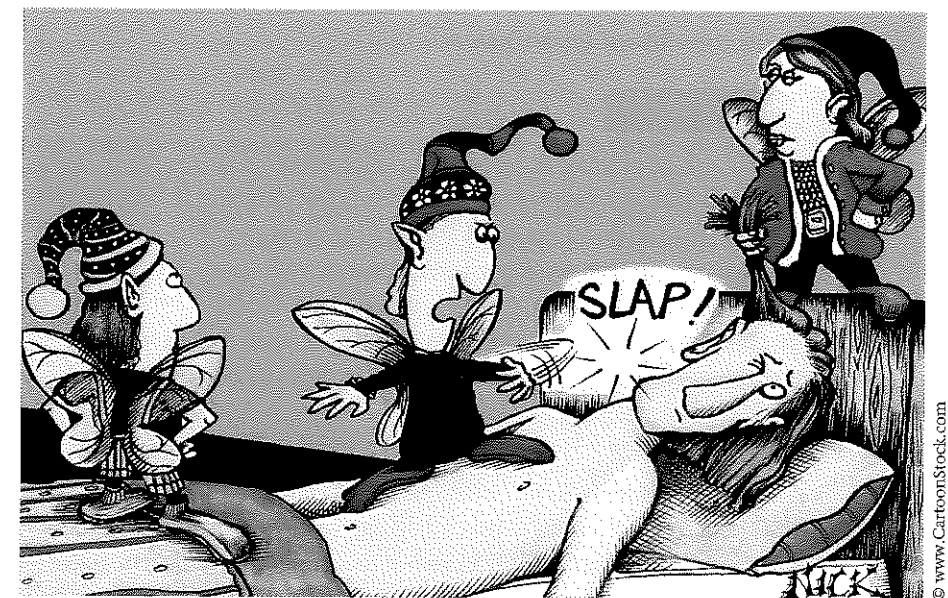
- 'Amazing New Proof of Life After Death' (11 January 1999)
- 'Faith Healer Cures Sick Pets with the Power of Prayer' (13 August 1999)
- 'US Scientists Bring Mummy Back to Life' (27 August 1999)
- 'Washington Think Tanks are Riddled with Space Aliens' (1 October 1999)
- 'First Marriage Between Human and Space Alien Still Going Strong' (8 October 1999)
- 'Dog Reincarnation: Five Ways to Tell if Your Dog was a Human in a Past Life' (12 November 1999)
- 'Top Psychic Warns: Hitler is Coming Back' (21 January 2000)
- 'Top Scientist says Sicko Space Aliens are Stealing Our Women and Turning them into Prostitutes' (6 April 2000)
- 'Your Dead Pet's Ghost May be Peeing on Your Carpet' (16 May 2000)

## The danger of scepticism

Despite the above comments, there is also a danger in being *too* sceptical; for you may then close your mind to new ideas that challenge the conventional wisdom. There are many examples of ideas that were ridiculed when they first appeared but were later shown to be true. For example, until the early nineteenth century, scientists dismissed the idea

that stones could fall from the sky as superstition; but we now take the existence of meteorites for granted. Similarly, when Alfred Wegener (1880–1930) suggested the theory of continental drift in 1912, it was rejected by his contemporaries; but it was resurrected in the 1960s as part of the theory of plate tectonics. The moral of the tale is that just because an idea does not fit our currently accepted theories does not necessarily mean that it is wrong. For it is always possible that it is our theories that need to be changed. Thus if we are too sceptical the danger is that intellectual progress will grind to a halt and knowledge stagnate.

So we need to find a balance between being open to new ideas that challenge our current way of thinking, and keeping in mind that human beings are credulous animals who are sometimes willing to believe strange things on the basis of slender evidence.



"For goodness sake, man, SNAP OUT OF IT...!!! We're NOT aliens from outer space!! We're PIXIES! from your GARDEN...!! IS THAT SO DIFFICULT TO UNDERSTAND...?!?"

Figure 1.6

### Activity 1.6

Comment on the following quotation, and explain why you either agree or disagree with it: 'My view is that there is such a thing as being too open-minded. I am *not* open-minded about the earth being flat, about whether Hitler is alive today, about claims by people to have squared the circle, or to have proven special relativity wrong. I am also not open-minded with respect to the paranormal. And I think it is wrong to be open-minded with respect to these things, just as I think it is wrong to be open-minded about whether or not the Nazis killed six million Jews in World War II.' [Douglas Hofstadter]



## Reasonable knowledge

In trying to determine whether or not a knowledge claim is reasonable, two preliminary criteria may serve as useful guides: (1) evidence and (2) coherence.

### 1 Evidence

For a belief to be reasonable there should be some positive evidence in support of it. Imagine someone claiming that there are little green men living on Mars. When you challenge them to support their belief, they say 'Well, you can't prove that there aren't.' This is a bad argument because the person has given no positive evidence to support their belief; and although it is difficult to prove that there are definitely not little green men on Mars, this simply reflects the fact that it is always difficult to prove a negative. The fact that you can't prove that something *isn't* true does nothing to show that it *is* true. The fallacy of thinking that it does is called **argument ad ignorantiam**.

#### Activity 1.7

- Which of the following is an example of argument *ad ignorantiam*?
  - Since many people claim to have seen ghosts, it is likely that they exist.
  - Many members of the Society for the Paranormal believe in ghosts.
  - Ghosts must exist because no one has proved that they do not.
  - It is true for me that ghosts exist.
- Make up three examples of your own to illustrate the fallacy of argument *ad ignorantiam*.
- How would you go about trying to prove that a species has become extinct? What has this got to do with our discussion?

We should look not only for evidence in favour of our beliefs, but also for evidence that would count against them. For, according to psychologists, we have a disturbing tendency, known as **confirmation bias**, to notice only evidence that supports our beliefs. For example, if you believe in astrology, you will tend to notice the times your horoscope is right and overlook the times it is wrong. To counter this tendency, you should keep a record not only of how often the horoscope is right but also of how often it is wrong.

### 2 Coherence

A second criterion for deciding whether or not a belief is reasonable is whether it coheres, or fits in, with our current understanding of things. Despite appearances, I don't think that this criterion contradicts what we said earlier about the need to question common sense. When it comes to examining our beliefs, our position is like that of a sailor who has to rebuild his ship while still at sea. If he dismantles the ship completely and tries to rebuild it from scratch, he will drown. His only option is to rebuild it piece by piece. Similarly, we cannot cast doubt on all of our beliefs at the same time. The best we can do is examine them one at a time against the background of our other beliefs. If we don't want to drown, there is simply no other way to proceed.

What this criterion implies is that, although we should be open to new ideas, the more unlikely something is relative to the current state of knowledge, the stronger the evidence in its favour should be before we take it seriously. Consider, for example, the claims of people such as Uri Geller – 'the world's most famous paranormalist' – to be able to bend spoons using only mental energy. Given our current knowledge of the way the world works, it seems unlikely that a spoon can be bent through non-physical means simply by focusing one's mind on it. So before accepting such a belief we should demand good evidence in support of it. As far as I know, no such evidence currently exists.

#### Activity 1.8

- According to the astronomer Carl Sagan (1934–96), 'extraordinary claims require extraordinary evidence'. Explain what he meant by this. Do you agree?
- Explain, with reasons, which of the following statements you think is less likely to be true.
  - The Loch Ness monster exists.
  - Some mystics are able to levitate.
- In a book entitled *The Appalling Fraud (L'effroyable imposture)*, the French author Thierry Meyssan makes the extraordinary claim that a passenger jet did not hit the Pentagon on 11 September 2001, and that the explosion was instead caused by a truck load of explosives. Using the criterion mentioned above, how much evidence would you need in order to be convinced of the truth of Meyssan's claim?

## Who cares?

At this point, you might ask whether it really matters what we believe. We may laugh at some of the crazy ideas people hold, but what harm do they do? Don't people have the right to believe what they like? I am as in favour of freedom of belief as the next person, but I think it matters what you believe; and although it may sound undemocratic I think some beliefs are more worthy of respect than others.

One reason why your beliefs and opinions matter is that they are an important – perhaps defining – part of who you are as a person. So if you want to be something more than a 'second-hand self' who mindlessly repeats the opinions of other people, you need to make your beliefs and opinions genuinely your own by subjecting them to critical scrutiny. Socrates (470–399 BCE) once famously said that 'The unexamined life is not worth living.' Although it would make little sense to be *constantly* examining your beliefs, I think that if you *never* examine them you end up leading a life that is not genuinely your own.

A second reason why beliefs matter is that people's beliefs affect their actions; and, in some cases at least, beliefs can literally be a matter of life and death. For example, between the fifteenth and seventeenth centuries in Europe, an estimated half a million people were burnt to death because they were believed to be guilty of the 'crime' of witchcraft. Fortunately, we no longer burn people to death for witchcraft; but there is no shortage of dangerous and misguided beliefs in circulation. Here are two examples:

- 1 A former chief executive of Philip Morris once claimed that cigarettes are no more addictive than gummy bears candy. But the statistical evidence suggests that every cigarette you smoke shortens your life by about the amount of time it takes to smoke it.
- 2 In 1997, the leader of an American religious cult called 'Heaven's Gate' persuaded his followers that if they 'shed their bodies' they would be beamed on board a spaceship behind the Hale-Bopp comet and taken to a new world. Thirty-nine people committed suicide as a result.

### Activity 1.9

- 1 Do you think we should respect the beliefs of a racist or sexist person? Give reasons.
- 2 Find some examples of beliefs that you think are both misguided and dangerous.

The French philosopher Voltaire (1694–1778) once said that 'People who believe absurdities will commit atrocities.' Although most people who hold eccentric beliefs show no interest in massacring their neighbours, I think there is an element of truth in Voltaire's comment. A society in which 'anything goes' is a fertile breeding ground for fanatics and extremists of all kinds. Some historians have observed that the rise of Hitler in Germany was accompanied by a growing interest in various kinds of pseudo-science. The psychologist Viktor Frankl (1905–97), who was a survivor of a Nazi concentration camp, sees a direct link between the two: 'I am absolutely convinced that the gas chambers of Auschwitz, Treblinka, and Maidanek were ultimately prepared not in some ministry or other in Berlin, but rather at the desks and in the lecture halls of nihilistic scientists and philosophers.' If there is any truth in this claim, then each of us has the responsibility, at least occasionally, to take a critical look at our own beliefs and prejudices.

## Conclusion

At the beginning of this chapter, we saw that it is difficult to form a coherent picture of reality in the modern world. The way we see the world is shaped by our history, and by culture and psychology; and since in cosmic terms we have not been around very long, we may wonder if we have any privileged access to the truth. We then looked at three possible solutions to the problem of knowledge – common sense, certainty and relativism – and we saw that none of them is entirely adequate. Since the problem of knowledge has no easy solution we must use our judgement in trying to decide what to believe.

I hope that at this stage you will agree that there is a problem of knowledge and that it is worth spending some time thinking about it. What we now need to do is look in more detail at what we mean by the word 'knowledge'. That is the task of Chapter 2.

### Key points

The world is a confusing place in which we find a bewildering variety of different opinions.

Our common-sense picture of reality probably contains inaccuracies and biases that we are not aware of.

We acquire knowledge about the world through language, perception, reason and emotion, but none of these ways of knowing can give us certainty.

According to relativism, truth is relative to the individual; but the fact that we take seriously the idea that someone may be wrong in their beliefs suggests that relativism is false.

Since there are few black and white certainties in the world, we have to rely more on judgement.

An important aspect of good judgement is finding the right balance between scepticism and open-mindedness.

Two preliminary criteria for deciding whether a knowledge claim is plausible are evidence and coherence.

Since we are what we believe and our beliefs affect our actions, if we want to be authentic and responsible we should occasionally subject our beliefs to critical scrutiny.

### Terms to remember

argument *ad ignorantiam*  
certainty  
coherence  
common sense  
confirmation bias

evidence  
gullibility  
judgement  
mental map  
open-mindedness

paradox of cartography  
paranormal phenomena  
relativism  
scepticism  
ways of knowing

## Further reading

**André Comte-Sponville, *The Little Book of Philosophy*** (Heinemann, 2004), Chapter 5: 'Knowledge'. A beautifully written chapter on knowledge, scepticism and certainty. Since it is written by a philosopher, it is quite challenging, but it is worth reading, thinking about, and then reading again!

**Carl Sagan, *The Demon Haunted World*** (Ballantine, 1997). This classic text written from a scientific and sceptical point of view contains many thought-provoking chapters. Try Chapter 12, 'The Fine Art of Baloney Detection', Chapter 17, 'The Marriage of Scepticism and Wonder', and Chapter 19, 'No Such Thing as a Dumb Question'.

## Introduction

Having looked at the problem of knowledge, we now need to say something about the nature of knowledge. The word 'knowledge' is what might be described as a *thick concept* in that it is not exhausted by a short definition and can only be understood through experience and reflection. Indeed, the whole of this book is, in a sense, a reflection on the meaning of the word 'knowledge'. Having said that, a definition can still give us a useful preliminary hook for thinking about the meaning of a word. So we shall begin by exploring a definition of knowledge as *justified true belief*. But it is important to keep in mind that this should be the starting point for reflection rather than its finishing point.

## Knowledge as justified true belief

Taking our preliminary definition of knowledge as *justified true belief*, let us consider the three elements that make it up.

### Truth

The most obvious thing that distinguishes knowledge from belief is truth. If you know something, then what you claim to know *must* be true, but if you merely believe it, then it may be true or it may be false. This is why you cannot *know* that Rome is the capital of France, or that pigs have wings, or that the earth is flat.

Truth is another thick concept, which we shall have a lot to say about in Chapter 14. For the time being we can say that, as traditionally understood, truth is independent of what anyone happens to believe is true, and that simply believing that something is true does not make it true. Indeed, even if *everyone* believes that something is true, it may turn out to be false. For example, during the Middle Ages, everyone thought they knew that there were seven 'planets' orbiting the earth (Sun, Moon, Mercury, Venus, Mars, Saturn and Jupiter). They were wrong: we now know that there are nine planets orbiting the sun.

This raises the question of how can we ever be sure that what we think we know really is true. Perhaps in the future they will discover a tenth planet, and what we thought we knew will turn out to be false. Since we are fallible beings, this is indeed possible. But, as we saw in Chapter 1, this simply shows that knowledge requires something less than certainty. In practice, when we say that something is true, we usually mean that it is 'beyond reasonable doubt'. Since we are willing to imprison – and in some cases execute – people on the basis of evidence that is beyond reasonable doubt, this is surely an acceptable criterion for saying that we know something.

## Belief

If you know something, then what you claim to know must not only be true, but you must also *believe* it to be true. We might say that, while truth is an objective requirement for knowledge, belief is a subjective requirement for it. If you have no conscious awareness of something, then it makes little sense to say that you know it. That is why encyclopaedias do not *know* that Paris is the capital of France, and pocket calculators do not *know* that  $2 + 2 = 4$ .

### Activity 2.1

- 1 Can you think of any cases in which someone might be said to know something without knowing that they know it?
- 2 As technology develops, do you think it will ever make sense to say that a computer knows things?

Since the time of Plato (428–348 BCE), some philosophers have argued that when you know something you are in a completely different mental state to when you merely believe it. For when you know something you are certain of it, and when you merely believe it you are not. However, we shall adopt a less demanding standard of knowledge. Rather than think of knowledge as being completely different from belief, it may make more sense to think in terms of a belief–knowledge continuum, with unjustified beliefs at one end of the continuum, beliefs for which there is some evidence in the middle, and beliefs which are 'beyond reasonable doubt' at the other end.

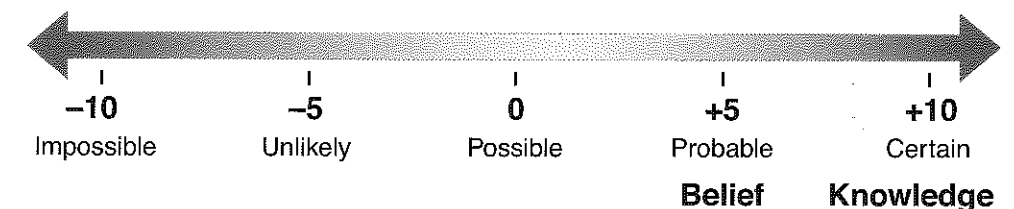


Figure 2.1 Belief–knowledge continuum

Here are three examples of various kinds of belief:

- A *vague belief* I may vaguely believe that eating tomatoes helps to reduce the risk of heart disease, but have no idea where I came across this idea and readily abandon it in the light of counter-evidence.
- A *well-supported belief* I may believe that Smith killed Jones, and be able to give evidence for my belief, but still be unwilling to say that I know that this is the case.
- A *belief that is beyond reasonable doubt* I may find the evidence which supports the claim that the Americans landed on the moon in 1969 so convincing and the counter-evidence of conspiracy theorists so flimsy that I am willing to say that I know the Americans landed on the moon.



Given this way of looking at things, the question of exactly where we should draw the line between belief and knowledge does not strike me as a very interesting one. It is like asking where, in a spectrum of shades running from black to white, black ends and white begins. The important thing, surely, is to try to develop as reasonable and well-supported a set of beliefs as possible.

### Activity 2.2

Where on the belief-knowledge continuum, running from -10 to +10, would you put the following propositions?

- Christopher Columbus 'discovered' America in 1492.
- If A is bigger than B and B is bigger than C, then A is bigger than C.
- Human beings are descended from apes.
- Murder is wrong.
- Aliens have visited the earth at some time during its history.
- All metals expand when heated.
- Human beings have an immortal soul.
- It is possible to construct a square with the same area as a given circle.

## Justification

You might think that true belief is a sufficient condition for knowledge, and that if you believe something and your belief is true, then you can be said to know it. However, something more is in fact required – your belief must also be justified in the right kind of way. Imagine that someone claims to know that there are nine planets in the solar system. When you ask how they know, they reply that there is an analogy between the 'microcosmos' of the human body and the 'macrocosmos' of the solar system, and that, just as there are nine 'windows' in the temple of the body – two nostrils, two ears, two eyes, a mouth, and two windows in the lower portion of the body – so there must also be nine planets in the solar system. This person believes that there are nine planets in the solar system, and his belief is true, but we would not want to say that he *knows* this because his belief has not been justified in the right kind of way. To us it makes no sense to talk of an analogy between the 'windows' in the human body and the planets in the solar system.

The point, in short, is that in order to be able to say that you know something you must be able to justify your belief, and your justification must be of the right kind. We usually justify our knowledge claims by appealing to one of the four ways of knowing. If someone asks you how you know, you might reply:

- 'Someone told me' (language)
- 'I saw it' (perception)
- 'I worked it out' (reason)
- 'It's intuitively obvious' (emotion)

With respect to our planetary example, you might be said to *know* that there are nine planets in the solar system if you are part of a team of astronomers that have made the relevant observations, or if you came across this fact in a reputable encyclopaedia or science magazine.

Now, you might ask why some kinds of justification, such as perception, are usually considered acceptable, while others, such as telepathy, are not. Imagine that a psychic asks you to think of an animal, and then correctly says that you are thinking of a zebra. When you ask her how she knew, she replies that she read your mind. I think that most people would not find this an acceptable justification, and would say that the psychic did not really *know* that you were thinking of a zebra, but simply made a lucky guess.

The key thing that distinguishes acceptable from unacceptable justifications seems to be *reliability*. Although it is not infallible, perception is a generally reliable source of knowledge. Telepathy, by contrast, is unreliable, and the scientific evidence to date suggests that psychics do no better than chance when it comes to trying to read other people's minds. The sceptic and magician James Randi has offered a prize of \$1 million to anyone who can demonstrate psychic powers. At the time of writing, the prize remains unclaimed. This does not prove that telepathy is false, but it does suggest that it cannot be appealed to as a reliable justification for our knowledge claims.

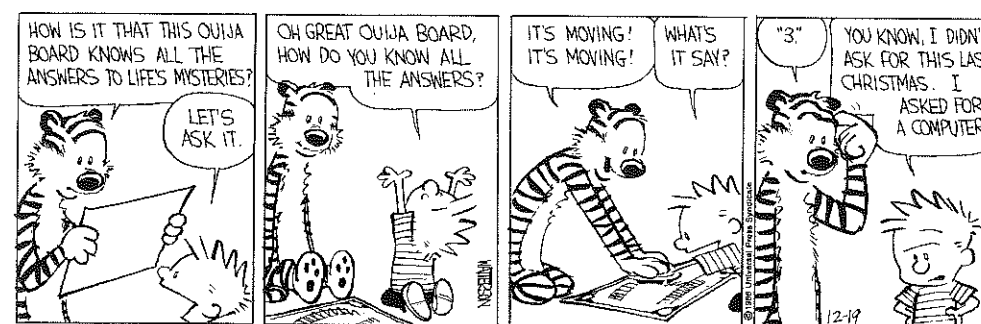


Figure 2.2

Whether or not you are justified in saying that you *know* something also depends on context. For example, you might claim to know that Mr Thompson is in his office because you just saw him go in, and you can hear his voice through the wall. But if, for some extraordinary reason, the future of the planet depended on whether or not Mr Thompson really is in his office, you might begin to feel less sure. Perhaps what you saw was only an actor who looked like Mr Thompson, and perhaps what you can hear is only a recording of his voice. This is the stuff of Hollywood dramas, and you are never likely to find yourself in such a situation. Since life is too short to raise sceptical doubts about everything you see, you have to make a judgement about when doubt is appropriate and when it is inappropriate. While *indiscriminate* scepticism has little to commend it, you would probably be more cautious about saying 'I know' in a court of law than you would in everyday life.

When you say you *know* something you are, in a sense, taking *responsibility* for its being true. If, for example, you say that you *know* the bridge across the chasm will support my weight, there is a sense in which you are responsible for what happens to me if I cross it. And if you say you *know* that Apollo 11 landed on the moon, you are implying that if other people look at the evidence with an open mind they *ought* to come to the same conclusion. Although we tend to think of facts as being completely different from values, this suggests that there is an ethical element built into the pursuit of knowledge.

## Levels of knowledge

There is a lot more we can say about knowledge than simply that it is justified true belief. For a start, there are also different levels of knowledge. You may, for example, have a superficial grasp, a good understanding, or complete mastery of a subject. When five-year-old Jimmy says 'My mum's a doctor' his understanding of what this means is clearly not the same as his mother's. Much of what we claim to 'know' is in fact second-hand knowledge that we have acquired from other people and do not understand in any great detail. You might, for example, struggle to explain to another person what gravity is, or why the sky is blue, or how a mobile phone works. Young children who are continually asking 'Why?' are sometimes irritating precisely because they bring to light the superficial nature of our understanding.

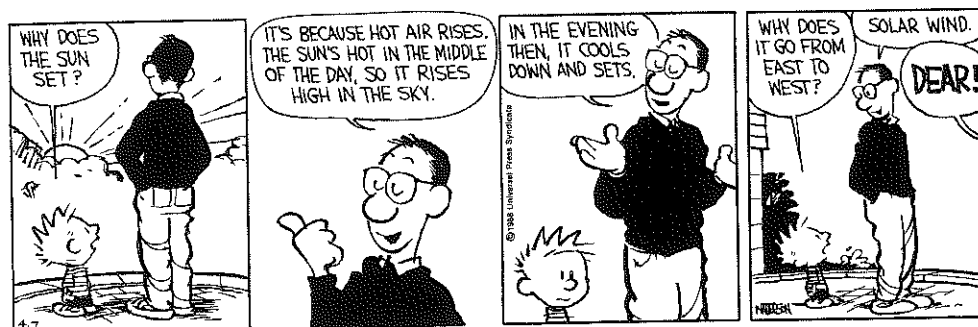


Figure 2.3

If you study a subject in depth, your understanding of it is likely to grow and develop over time. For example, if you study the *theory of relativity* in your physics class, revisit it as a university student, specialise in it when studying for a doctorate, and finally teach courses on it as a university professor, your knowledge of the theory as a university professor will be deeper and more sophisticated than it was as a first-year physics student. You may already have had the experience of revisiting a topic several years after you first studied it and realising how superficial your previous understanding of it was!

## Knowledge and information

At this point, we should make a distinction between *knowledge* and *information*. Imagine sitting a child down one afternoon and teaching them some disconnected facts: 'nine times seven is sixty-three'; 'the chemical formula for water is  $H_2O$ '; 'aardvarks live in Africa'; 'the heroine in *Pride and Prejudice* is called Elizabeth Bennett', and so on. By the end of the afternoon, the child may be said to have acquired some knowledge in the limited sense of information. After all, each of these statements is true, the child (we assume) believes they are true, and she is justified in taking them as true because you are a reliable authority. However, if the child does not know how to multiply, knows nothing about atoms and molecules, does not know where Africa is, and has never read *Pride and Prejudice*, there is clearly something missing from her knowledge. Drilling random facts into someone's mind may be good for quiz shows, but it does not lead to genuine understanding.

A person with genuine knowledge of a subject does not merely have information about it, but understands how the various parts are related to one another to form a meaningful whole. To clarify with an analogy, we might say that information is to knowledge as bricks are to a building. While you cannot have a building without bricks, a building is more than just a heap of bricks. Similarly, while you cannot have knowledge without information, an area of knowledge is more than just a heap of information. The point is that when you study a subject you are not simply taught endless lists of facts, but you also learn various background assumptions, theories and informing ideas that help you to make sense of the facts.

So, if you wish to understand something, it is not enough to merely acquire information about it – you also need to think about the information and see how it hangs together. In a well-known *Sherlock Holmes* story, the famous detective and his trusty assistant, Dr Watson, are at the scene of a murder surveying the evidence. Holmes turns to Watson and says 'I see it all now, I know who did it.' Watson says with astonishment 'My dear Holmes, I've examined this same room with you and I see nothing at all!' To which Holmes replies 'No Watson, you "see" everything, but you "observe" nothing.' While Watson has at his disposal exactly the same information as Holmes, he cannot see the pattern which has allowed Holmes to solve the crime. What this story shows is that you can sometimes acquire knowledge simply by reflecting on the information you already have at your disposal rather than by looking for more information. This is a point worth keeping in mind in the Internet age when many people have access to vast amounts of information.

### Activity 2.3

- 1 Have you ever passed an exam by cramming the week before, but felt that you did not really understand the subject? What does this suggest to you about the difference between knowledge and information?
- 2 What is the difference between knowing in the sense of understanding and knowing in the sense of being able to recite the relevant facts and theories without understanding them?